MARYLAND

WORKING PAPER:

FUTURE NEED FOR HOME HEALTH IN MARYLAND

APRIL 19, 2001

MARYLAND
HEALTHCARE
COMMISSION

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I. INTRODUCTION

A. Background

In Maryland, there are various types of home care services provided to ill persons in their own place of residence. The continuum of home care services includes, but is not limited to, home health agencies (HHAs), residential service agencies (RSAs), nursing staff agencies and nurse registries. [1] The Maryland Health Care Commission regulates through Certificate of Need one of these entities, that is, home health agencies. Maryland's licensing statute defines a "home health agency" as "a health-related institution, organization, or part of an institution that: (1) is owned or operated by one or more persons, whether or not for profit and whether as a public or private enterprise; and (2) directly or through a contractual arrangement, provides to a sick or disabled individual in the residence of that individual, skilled nursing services, home health aide services, and at least one other home health care service that are centrally administered." [2] Only home health agencies meeting requirements under Maryland licensure regulations (COMAR 10.07.10.02) may be certified to receive Medicare reimbursement.

In its recent publication issued January 1, 2001, *An Analysis and Evaluation of Certificate of Need Regulation in Maryland, Phase I, Final Report to the Maryland General Assembly*, the Commission made the following three recommendations related to home health agency services:

- The Commission should continue its regulatory oversight of home health agencies through the Certificate of Need program.

- The Commission will support efforts to reorganize the current statutory framework for licensure of home-based health care services to provide consistent and improved oversight for both home health agencies and residential service agencies.

- The Commission will monitor the effectiveness of Certificate of Need oversight for home health agencies in light of the changing environment and periodically assess whether Certificate of Need regulation is still needed.

This update of the Home Health portion of the Long Term Care Chapter of the State Health Plan is done in the context of the Commission continuing to plan for and regulate home health.

[1] Categories of health and personal care providers serving Maryland residents in their homes which are not regulated by the Maryland Health Care Commission include "residential service agencies," "nursing staff agencies," and "nurse registries." A thorough discussion of the similarities and differences between these entities and CON-regulated "home health agencies" are described in the Commission's report *An Analysis and Evaluation of Certificate of Need Regulation in Maryland*, published January 2001.

[2] Health General Article § 19-401, Annotated Code of Maryland.

B. Purpose of the Working Paper

The purpose of this document is to update the need projections for licensed home health agency services in Maryland as is currently described in the Long Term Care Chapter of the State Health Plan (COMAR 10.24.08). This working paper updates home health need projections to the new target year 2005, using 1999 data as the base year, consistent with the established home health methodology assumptions in the State Health Plan. As part of this update, Commission staff analyzed home health utilization trends (1995 to 1999), projected population growth, historical and forecasted home health client use rates, as well as other contributing factors which may influence future home health agency need.

Projected need estimates for the target year 2005 are based on a variety of assumptions. Five alternative scenarios, in addition to the current methodology, are presented in this document. The intended purpose of this working paper is to stimulate discussion on the underlying assumptions and related factors used to forecast need for home health agency services in Maryland. While the paper does examine alternative approaches for projecting need, it is important to recognize that the alternatives defined do not represent the staff recommendation or the full range of policy options that potentially will be considered in the discussion of alternative options. In that regard, the Commission staff will continue to meet with representatives of the home health industry.

C. Invitation for Public Comment

The Commission invites all interested organizations and individuals to participate in the process of updating the State Health Plan for home health agency services by submitting written comments on this document. Public comments should be submitted no later than June 8, 2001 and addressed to:

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II. TRENDS IN HOME HEALTH AGENCY UTILIZATION

In forecasting future home health need, it is important to consider how utilization patterns have changed since 1995, the base year from which home health need estimates were previously updated. In retrospect, the home health environment was quite different in 1995, as compared to that of the post 1997 era when The Balanced Budget Act (BBA) of 1997 was implemented. The changes in federal law were in response to concerns of fraud and abuse combined with escalating expenditures.[3] Modifications to Medicare's home health reimbursement system and corresponding policies were intended to slow the rate of expenditure growth, provide incentives for efficiency in the delivery of care, and ensure that Medicare pays appropriately for services.[4]

The analyses of Maryland's home health utilization trend data, based on the Commission's *Maryland Home Health Agency Annual Statistical Profiles* for fiscal years 1995 through 1999, certainly shed light on how federal reimbursement changes have had an impact on utilization. Federal reimbursement incentives will continue to be a significant factor in determining future need for home health agencies, since the largest portion of home health care in Maryland is financed by Medicare. Other factors contributing to the way home health agencies have been utilized in the past, and most likely to continue to impact the need and demand for home health agency use in the future, include: changing demographics, advances in medical technology, development of community-based alternatives, and changes in organization and ownership of home health agencies. A discussion of these factors influencing future need for home health agencies in Maryland is presented in Part III of the document.

A. MARYLAND HOME HEALTH AGENCIES: FISCAL YEARS 1995 through 1999

1. Total Number of Admissions and Reporting Agencies

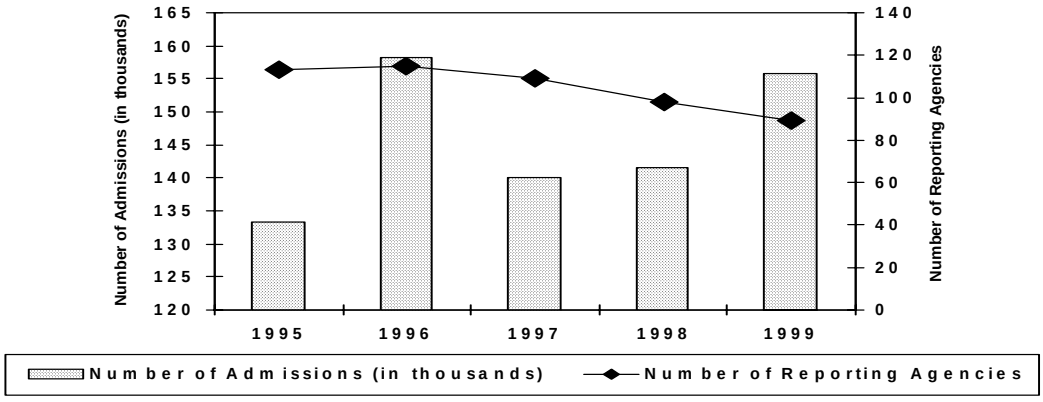
As shown in Table 1, from 1995 to 1999 there has been an overall statewide increase in the number of home health agency admissions, from 133,484 to 155,865 admissions, which represents a 16.8 percent increase over this five-year period. However, analysis year by year shows fluctuation in the number of admissions, with an 11.4 percent decline in the number of admissions from 1996 to 1997. Some of this decline may have been due to changes in the "homebound" definition imposed by Medicare with its reimbursement changes under the Interim Payment System (IPS) which went into effect October 1, 1997. Under this payment system, home health agencies continued to be reimbursed based on costs, but the payments were modified with tighter limits. [5] The 10 percent increase in admissions from 1998 to 1999 may have been due, in part, to the passage of The Omnibus Consolidated and Emergency Supplemental Appropriations Act for Fiscal Year 1999. This 1999 law revised the Interim Payment System by moderately increasing the per visit and per beneficiary cost limits on home

[3] For a thorough discussion on the changes in federal reimbursement for home health agencies, refer to the Commission's *Maryland Home Health Agency Statistical Profile and Trend Analysis, Fiscal Year 1998*, June 2000.
[4] U.S. Department of Health and Human Services, Health Care Financing Administration, *A Profile of Medicare Home Health*, August 1999.
[5] For a more in-depth discussion and analysis of Medicare's Interim Payment System, refer to Maryland Health Resources Planning Commission's *Medicare's Home Health Agency Interim Payment System: An Assessment of the Potential Impact in Maryland and Need for Further Study*, October 1998.

health visits, and provided clarification on certain types of home health admissions.

Combined with changes in Medicare reimbursement, another factor to consider in the surge in the number of home health admissions from 1998 to 1999 may be the recent increase in assisted living facilities. As residents age in place, assisted living facilities become another "residence" where home health may be needed. Moreover, the increasing number of acute hospital discharges, and concurrent declines in hospital lengths of stay, may also be another factor to consider when evaluating the increase in home health admissions from 1998 to 1999. Upon further agency-specific analysis, it appears that several new agencies became operational during 1997 and 1998, while other agencies merged or closed. Overall, there was a decline in the number of reporting home health agencies from 113 agencies in 1995 to 89 agencies in 1999, which represents a 21.2 percent decline. The data presented in Table 1 is illustrated in Figure 1, which shows the fluctuations in the total number of admissions and the declining number of reporting agencies from 1995 to 1999.

Figure 1
Total Number of Home Health Agency Admissions and Reporting Agencies: Maryland Fiscal Years 1995 - 1999



Source: Maryland Health Care Commission, *Maryland Home Health Agency Statistical Profiles.*

Table 1
Total Number of Home Health Agency Admissions
Maryland, Fiscal Years 1995 - 1999

Fiscal Year	Total Number of Admissions	Number of Reporting Home Health Agencies
1995	133,484	113
1996	158,364	115
1997	140,157	109
1998	141,598	98
1999	155,865	89

2. Percent Distribution of Home Health Agency Admissions by Agency Type

It is interesting to note the shifts in the distribution of admissions by agency type from 1995 to 1999. While admissions to freestanding home health agencies declined, from 56.1% to 51.6%, the proportion of admissions to hospital-based home health agencies increased, from 28.5% to 37.6%, during the same 1995 to 1999 period. There also was a decline in admissions to government health department home health agencies, from 4.7% of admissions in 1995 to 1.3 percent of admissions in 1999 (refer to Table 2). Overall, the change in the distribution of admissions by agency type is reflective of the changes in the supply of home health agencies from 1995 to 1999. For instance, the decline in admissions of government health department home health agencies is due to the closure of 11 local health department agencies between 1997 and 2001, as summarized in Table 11. A status report of the current inventory of home health agencies and discussion of implications of changes in organization and ownership of home health agencies are presented in Section III of this document. For a more detailed listing of these closures/mergers/acquisitions, refer to Table A-1 in Appendix A.

Table 2
Percent Distribution of Home Health Agency Admissions by Agency Type
Maryland, Fiscal Years 1995 – 1999

Agency Type	1995	1996	1997	1998	1999
Freestanding	56.1%	57.8%	52.2%	51.9%	51.6%
Hospital-Based	28.5%	27.5%	33.6%	36.6%	37.6%
HMO-Based	10.2%	10.4%	10.4%	9.0%	8.9%
Gov't Health Department	4.7%	3.5%	3.0%	2.1%	1.3%
Other*	0.6%	0.8%	0.8%	0.4%	0.5%

* Other category includes nursing home-based and CCRC-based home health agencies.

3. Percent Distribution of Home Health Agency Admissions by Referral Source

While the majority of admissions have consistently been referred to home health care by hospitals, during the five-year period from 1995 to 1999 the second most frequent source of referral to home health care has been by private physician offices. Both of these referral sources combined comprise about 70% of all admissions to home health care (refer to Table 3). Two sources of referral to home health care which show a dramatic shift from 1995 to 1999 were referrals by Health Maintenance Organizations (HMOs) and "other" category which include referrals from sub-acute programs and assisted living facilities. While the percent of home health care admissions referred by HMOs declined from 10.5% in 1995 to 5.2% in 1999, the percent of admissions referred by "other" referral sources (including sub-acute care and assisted living facilities) increased from 5.5% in 1995 to 11.2% in 1999 (refer to Table 3). This change in referral source patterns may be reflective of the recent increase in the development of assisted living facilities and their use of home health as a way of providing skilled nursing services to an increasingly frail population. Moreover, the decline in admissions from HMOs may be due, in part, to the recent decline in Medicare managed care.

Table 3
Percent Distribution of Home Health Agency Admissions by Referral Source
Maryland, Fiscal Years 1995 - 1999

Type of Referral Source	1995	1996	1997	1998	1999
Hospital	58.3%	54.8%	52.4%	53.9%	52.2%
Private Physician	16.7%	18.6%	19.8%	19.4%	17.3%
HMO	10.5%	12.6%	11.5%	5.6%	5.2%
Nursing Home	3.1%	3.4%	4.7%	4.6%	6.4%
Family/Self	3.0%	3.0%	2.6%	2.3%	3.4%
Other	5.5%	4.6%	6.2%	10.3%*	11.2%*
Unknown	3.0%	3.0%	2.9%	3.9%	4.4%

*For FYs 1998 and 1999, "other" category includes referrals from sub-acute program (2.2% and 2.1%, respectively) and other referral (8.1% and 9.1%, respectively).

4. Percent Distribution of Home Health Agency Discharges by Disposition

The vast majority of clients have consistently been discharged with home care goals met, with an increase in the percent distribution of all discharges from 58.7% in 1995 to 68.6% in 1999 (refer to Table 4). The largest proportion of discharges transferred to an other setting were those home health clients transferred to an acute care hospital, from 11.4% in 1995 to 11.8% in 1999 (refer to Table 4). Based on this trend analysis, it could be inferred that while most home health clients successfully complete their goals and are able to remain in their home setting, there are many clients whose level of care needs change and require an institutional setting to provide needed health services. Clients who no longer met reimbursement criteria accounted for the third highest proportion of total discharges from home health care across the five-year period from 1995 to 1999.

Table 4
Percent Distribution of Home Health Agency Discharges by Disposition
Maryland, Fiscal Years 1995 – 1999

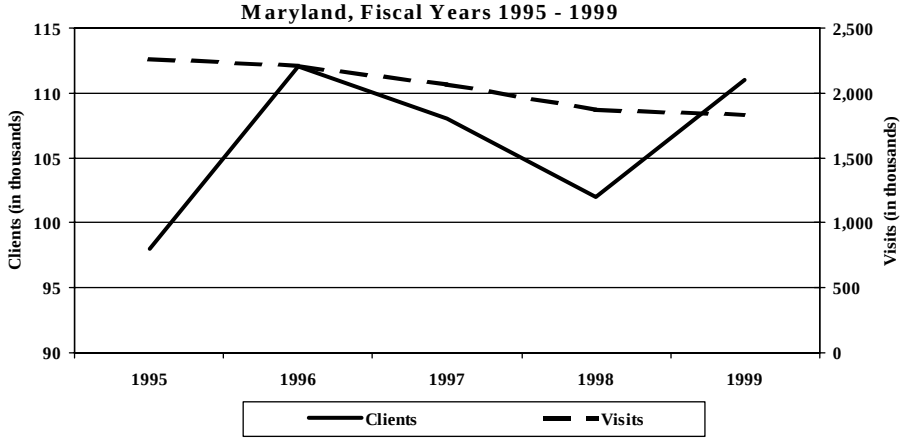
Discharge Disposition	1995	1996	1997	1998	1999
Goals Met	58.7%	65.8%	66.4%	67.8%	68.6%
Transferred to Acute Hospital	11.4%	9.8%	10.2%	11.0%	11.8%
Transferred to Another Institutional Setting*	1.5%	1.5%	2.2%	1.4%	1.7%
Transferred to Hospice	0.8%	0.8%	0.7%	1.0%	0.8%
Transferred to Another Home Health Agency	1.1%	1.2%	1.2%	1.4%	0.8%
Death	3.9%	3.4%	2.5%	2.9%	1.9%
No Longer Meet Reimbursement Criteria	9.3%	8.2%	7.1%	8.0%	7.0%
Non-Compliance or Client Refused Services	1.9%	2.0%	2.3%	2.1%	2.0%
Other	11.5%	7.3%	7.4%	4.5%	5.3%

*Another institutional setting includes comprehensive care or extended care facilities, chronic hospital or rehabilitation facility

5. Maryland Home Health Agency Clients and Visits by Payment Source

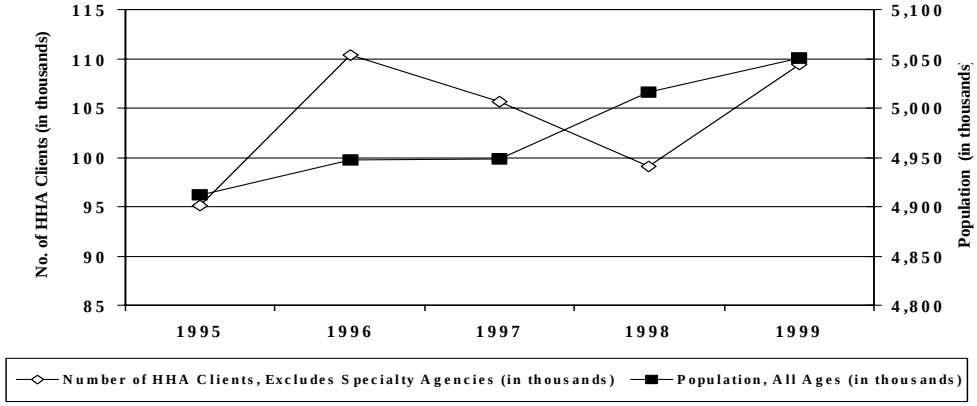
From 1995 to 1999, there has been an overall statewide increase in the total number of Maryland residents (unduplicated clients) receiving home health, with a concurrent decline in the total number of visits provided for home health clients: 13% increase in clients and 19% decline in visits (refer to Table 5). However, analysis year by year shows fluctuation in the total number of home health clients, while the total number of home health visits consistently declined over the 1995 to 1999 time period (refer to Table 6 and Figure 2). It is also interesting to compare the fluctuating number of home health clients with population trends for the same five-year timeframe (refer to Figure 3). This type of analysis illustrates the importance of being able to collect and analyze data on an annual basis. Figures 2 and 3 suggest we may need to continue to monitor the impact of changes to Medicare's home health reimbursement system. It should also be recognized that it may be difficult to project future home health need based on fluctuating trend data.

Figure 2
Total Number of Home Health Clients and Visits:
Maryland, Fiscal Years 1995 - 1999



Source: Maryland Health Care Commission, *Maryland Home Health Agency Statistical Profiles*

Figure 3
Home Health Agency Clients and Population: 1995 - 1999



Sources: Number of HHA clients is from the Maryland Health Care Commission's *Home Health Agency Statistical Profiles*.
Population data is from the Maryland Office of Planning, Population Estimates and Projections, updated February 2000.

Furthermore, it is interesting to note, that the changes in utilization between 1995 and 1999 vary by payment source. The greatest decline in both the number of clients and visits were for Maryland's Medicaid home health clients: 73.9% decline in Medicaid clients served, and 84.3% decline in the number of Medicaid visits. The second greatest decline for the same period was for Medicare clients, with a 2.1% decline in the number of clients and 23% decline in the number of Medicare visits. However, as illustrated in Table 5, from 1997 to 1999, there was even a greater decline of 3.9% in the number of Medicare clients and a smaller decline of 8.9% in the number of Medicare visits. This analysis seems to imply that Medicare utilization was at its peak before the passage of The Balanced Budget Act of 1997. Following its implementation on October 1, 1997, there have been declines from 1997 to 1999, in both the number of Medicare clients and visits (refer to Tables 5 and 6).

Home health clients covered by Blue Cross, commercial and private insurance had, from 1995 to 1999, the greatest increase in the number of home health clients served (73% increase), with a slight decline in the number of home health visits provided (0.8% decrease). However, from 1995 to 1997, there was even a greater decline in the number of visits provided by private insurance (6.0 % decline). Most interesting was the 63.5% increase in the number of home health clients enrolled in Health Maintenance Organizations (HMOs) with a concurrent 187% increase in the number of home health visits provided during the same five-year period, from 1995 to 1999. However, as shown in Table 5, the majority of the percentage growth in HMO home health clients and visits occurred during the three-year timeframe from 1995 to 1997. There was even a greater percentage increase in the number of HMO visits between 1995 and 1997 (214 %) than between 1995 and 1999 (187%), because there was a 9.2 percent decline in the number of HMO visits between 1997 and 1999. It remains unclear as to why there were fluctuations in the number of HMO visits between the two different time periods (from 1995 to 1997, and from 1997 to 1999), while there was a gradual increase in the number of HMO clients across the years from 1995 to 1999. The simultaneous overall decline from 1995 to 1999 in Medicaid and Medicare home health clients, with that of HMO's overall increase in home health clients for the same five-year timeframe, may be due to the growth of Medicaid and Medicare managed care in Maryland. Therefore, the trend analysis by payer source may indicate a shift in the payer distribution from traditional Medicare and Medicaid to managed care Medicare and Medicaid (refer to Table 5).

Table 5
Number of Home Health Clients (Unduplicated) and Visits by Payment Source
Maryland Residents, Fiscal Years 1995, 1997 and 1999

Payer Source	1995		1997		1999	
	No. Clients	No. Visits	No. Clients	No. Visits	No. Clients	No. Visits
Medicare	56,498	1,736,186	57,595	1,467,780	55,330	1,337,578
Medicaid	9,522	181,834	8,349	122,805	2,481	28,583
Private Insurance*	17,075	240,546	21,039	226,072	29,554	238,541
HMO	11,288	58,601	17,074	184,025	18,453	167,096
Other**	4,494	41,697	4,526	67,433	5,952	58,999
TOTAL	98,877	2,261,083	108,583	2,068,115	111,770	1,830,797

* Private insurance category includes Blue Cross, commercial and private insurance.
**Other category includes unknown payment source.

6. Maryland's Medicare and Total Maryland Home Health Clients and Visits

As noted above in Table 5, while the federal Medicare program has consistently been the primary payer source for home health care services provided to Maryland residents, the Maryland Medicaid program has historically financed the lowest number of both home health clients and visits.[6] The private insurance industry, which includes Blue Cross, commercial and private insurance companies, has been the second largest payer of home health clients and visits, with the Health Maintenance Organizations (HMOs) as the third largest payer. This analysis of increased private insurance market share is further supported by data which shows that, during the 1996 to 1998 period, Maryland's Medicare beneficiaries (age 65 and older) obtained private supplemental coverage, either through employer-provided coverage (48% of Medicare beneficiaries) or privately-purchased individual supplemental coverage, i.e., Medigap (21% of Medicare beneficiaries).[7] Compared with other states, Maryland ranked as having the fourth highest percentage of its Medicare beneficiaries with employer-provided private supplemental coverage; 48 percent in Maryland as compared to 33.5 percent in the nation.

Table 6 highlights that while Medicare clients have represented about half of total Maryland home health clients served, Medicare has continued to account for a higher percentage (73% in 1999) of total Maryland home health care visits. This directly relates to the differences in the average number of visits per client for Medicare enrolled clients as compared to total Maryland clients (refer to Table 7).

Table 6
Medicare's Percentage of Total Home Health Clients (Unduplicated) and Total Home Health Visits, Maryland Residents
Fiscal Years 1995 - 1999

Fiscal Year	No. of Medicare Clients (% of Maryland)	Total Maryland No. of Clients	No. of Medicare Visits (% of Maryland)	Total Maryland No. of Visits
1995	56,498 (57.1%)	98,877	1,736,186 (76.8%)	2,261,083
1996	61,202 (54.3%)	112,797	1,681,193 (76.1%)	2,210,365
1997	57,595 (53.0%)	108,583	1,467,780 (70.1%)	2,068,115
1998	51,406 (50.1%)	102,589	1,371,936 (73.1%)	1,876,985
1999	55,330 (49.5%)	111,770	1,337,578 (73.1%)	1,830,797

[6] The Maryland Medicaid Program pays for home-based services not typically covered by Medicare or commercial insurance, including personal care and support services.
[7] AARP Public Policy Institute analysis based on U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS) data, merge of 1997, 1998, and 1999 March Supplements.

7. Comparison of Average Number of Visits Per Client by Payment Source

Medicare continues to represent the largest proportion of total Maryland home health visits, although only about half of all home health clients are Medicare enrollees. Therefore, it is interesting to compare the average number of visits per client by payment source.

Table 7
Comparison of Average Visits Per Client by Payment Source,
Maryland Residents, Fiscal Years 1995 – 1999

Payer Source	1995	1996	1997	1998	1999
Medicare	31	28	26	26	24
Medicaid	19	19	15	11	11
Private Insurance*	14	8	11	10	8
HMO	5	8	11	10	9
Other**	9	8	15	8	10
TOTAL	23	20	19	18	16

*Private insurance category includes Blue Cross, commercial and private insurance.
**Other category also includes unknown payer source.

The comparison of average visits per client by payment type as shown in Table 7 indicates that Medicare home health clients require more visits than that of other payer types. This may be because they are older, more frail, and in need of more home health services.

B. COMPARING HOME HEALTH AGENCIES: MARYLAND, OTHER SELECTED STATES AND UNITED STATES

In order to have a more complete understanding of Maryland home health agencies, it is important to evaluate how Maryland compares with that of other adjacent states as well as with the nation as a whole. The U.S. Department of Health and Human Services, Health Care Financing Administration's Medicare data is used as the primary source to assure consistency in the calculations across the different states for purposes of comparison. (Refer to Figures B-1, B-2 and B-3 in Appendix B for illustration of the data presented in Tables 8, 9 and 10, respectively.)

1. Average Home Health Visits per Medicare User: 1994, 1996, and 1999

The average number of Medicare visits per home health client has been consistently low in Maryland, especially compared with that of the United States and adjacent states (refer to Table 8). In 1994, the average number of home health visits per Medicare user in Maryland was 37, and decreased to 29 visits per Medicare user in 1999 which reflects a relatively small percentage decline from 1994 to 1999 as compared to most adjacent states (ranging from 33% decline in Delaware, to 31.6% decline in West Virginia), and to the United States (a 36.5% decrease in average number of home health visits from 1994 to 1999). It is also interesting to note that compared to all 50 states plus the District of Columbia, Maryland's average number of

home health visits per Medicare user for 1999 was ranked as the 10th lowest, shared with the states of Arizona and Wisconsin, all with 29 visits per person served. Overall, the range in the average number of home health visits per Medicare user across the nation was from a low of 22 visits (Oregon) to a high of 95 visits (Louisiana). It remains unclear as to why Maryland has such historically low home health utilization. Since there is no normative standard, then it could be inferred that the other states may have unusually high utilization. Whatever the reason, the data clearly shows that other states with historically higher home health visits per user had steeper declines in utilization, and now more closely mirror Maryland's utilization.

Table 8
Average Number of Home Health Visits per Medicare User
Comparison of Maryland, Selected States, United States
1994, 1996, and 1999

State	1994	1996	1999	Percentage Change 1994 – 1996	Percentage Change 1996 – 1999	Percentage Change 1994 – 1999
Maryland	37	38	29	2.9%	-24.2%	-22.0%
Delaware	46	50	31	9.2%	-38.7%	-33.0%
District of Columbia	42	51	42	20.7%	-16.3%	0%
Pennsylvania	43	47	32	10.0%	-32.2%	-25.3%
Virginia	49	56	39	15.2%	-30.5%	-20.0%
West Virginia	50	58	34	15.7%	-40.9%	-31.6%
United States	65	73	41	12.7%	-43.6%	-36.5%

Source: GAO analysis of Health Care Financing Administration's home health claims data and beneficiary enrollment data for 1994, 1996, and 1999. United States General Accounting Office, Report to the Chairman, Subcommittee on Health, Committee on Ways and Means, House of Representatives. *Medicare Home Health Care; Prospective Payment System Could Reverse Recent Declines in Spending*; September 2000.

2. Medicare Home Health Users per 1,000 Beneficiaries: 1994, 1996 and 1999

The impact of several payment and other policy changes recently made to the Medicare home health benefit[8] on both Medicare home health use and spending have been monitored by Congress. In response to the dramatic drop in Medicare home health spending from a peak in 1997 of $18.3 billion to $9.5 billion in 1999, the GAO conducted a study to examine the declines in service use underlying the changes in spending.[9] The findings of the GAO study note that "after having been a major driver in home health spending growth from the early 1980s through 1997, the number of beneficiaries receiving home health visits has decreased."[10] Specifically, from 1996 to 1999, while the percentage of Medicare beneficiaries receiving home health care

[8] The Balanced Budget Act of 1997 (BBA) mandated these changes.
[9] United States General Accounting Office, Report to the Chairman, Subcommittee on Health, Committee on Ways and Means, House of Representatives. *Medicare Home Health Care; Prospective Payment System Could Reverse Recent Declines in Spending*; September 2000.
[10] United States General Accounting Office, Report to the Chairman, Subcommittee on Health, Committee on Ways and Means, House of Representatives. *Medicare Home Health Care; Prospective Payment System Could Reverse Recent Declines in Spending*; September 2000.

declined in all states, Maryland had one of the smallest percentage changes. Nationwide, the percentage of beneficiaries getting home health fell 22 percent, and in Maryland there was an 11.9 percent decline. As shown in Table 9, the number of home health users in 1999 for both Maryland and the nation as a whole, were closer to the number of users in 1994. The federal initiatives implemented under the Balanced Budget Act of 1997 appear to have met the objective in controlling escalating home health expenditures; this was accomplished both by curtailing the number of Medicare enrollees using home health, as well as limiting the average number of visits per Medicare home health client.

Table 9
Medicare Home Health Users Per 1,000 Enrollees
Comparison of Maryland, Selected States and United States
1994, 1996 and 1999

State	1994	1996	1999	Percentage Change 1994 - 1996	Percentage Change 1996-1999	Percentage Change 1994 – 1999
Maryland	75	85	75	13.2%	-11.9%	-0.3%
Delaware	82	90	70	10.7%	-22.3%	-14.0%
District of Columbia	71	86	72	20.1%	-15.5%	1.4%
Pennsylvania	98	113	101	16.0%	-11.2%	3.1%
Virginia	76	90	76	18.2%	-16.0%	-0.7%
West Virginia	72	88	64	20.8%	-27.4%	-12.2%
United States	89	102	80	15.0%	-22.0%	-10.3

Source: GAO analysis of Health Care Financing Administration's home health claims data and beneficiary enrollment data for 1994, 1996, and 1999. United States General Accounting Office, Report to the Chairman, Subcommittee on Health, Committee on Ways and Means, House of Representatives. *Medicare Home Health Care; Prospective Payment System Could Reverse Recent Declines in Spending*; September 2000.

3. Medicare-Certified Home Health Agencies per 100,000 Beneficiaries: 1998, 1999 and 2000

A comparison of the number of Medicare-certified home health agencies per 100,000 beneficiaries in Maryland, with that of adjacent states and the nation as a whole, is shown in Table 10 and illustrated in Figure B-3 found in Appendix B. For all states, the number of Medicare-certified HHAs per 100,000 enrollees ranged from the lowest of 5 in New Jersey, to the highest of 59 in Wyoming. Maryland's 33 percent decline from 1998 to 2000 is comparable to that of the nationwide experience. This type of data must be analyzed in context with the change in supply and distribution of home health agencies in Maryland during the same time period (i.e., mergers, acquisitions and closures, see Table 11 and Appendix Table A-1).

Table 10
Medicare-Certified Home Health Agencies Per 100,000 Enrollees
Comparison of Maryland, Selected States and United States
1998, 1999 and 2000

State	1998	1999	2000	Percent Change 1998-2000
Maryland	12	12	8	-33%
Delaware	19	16	15	-21%
District of Columbia	28	29	24	-14%
Pennsylvania	18	17	16	-11%
Virginia	27	26	18	-33%
West Virginia	27	26	21	-22%
United States	27	24	19	-30%

Source: AARP Public Policy Institute, *Reforming the Health Care System: State Profiles* for 1998, 1999 and 2000.

C. HIGHLIGHTS OF MARYLAND HOME HEALTH TREND ANALYSIS

A summary of the trend analysis indicates the following:

- While there were year to year fluctuations in the number of home health admissions, overall, there was an increase in admissions and a decrease in the number of agencies.

- Referral source patterns have changed, with a slight decrease in hospital referrals and an increase in other referral sources, including assisted living facilities.

- Year by year analysis shows variations in the total number of home health clients, while the total number of visits consistently declined.

- The concurrent overall decline in Medicaid and Medicare home health clients with that of HMO's overall increase in home health clients may be due to the growth of Medicaid and Medicare managed care in Maryland.

- While Medicare clients have represented about half of total Maryland home health clients served, Medicare has continued to account for a higher percentage of total Maryland home health care visits.

- Maryland's average number of home health visits per Medicare user had a relatively smaller percent decline from 1994 to 1999 when compared with the adjacent states and the United States as a whole, which had steeper declines in utilization.

- Home health utilization fluctuations are reflective of Medicare reimbursement changes.

III. FACTORS INFLUENCING FUTURE HOME HEALTH NEED

Several forces currently shaping the way in which home health care is provided will most likely impact the need and demand for home health agency services in the future. These factors include, but are not limited to: changing demographics, advances in medical technology, increased availability of community-based alternatives, and recent changes in organization and ownership of home health agencies.

A. Changing Demographics

One of the significant factors impacting current and future utilization of home health agency services is the aging of the population, especially that of the baby boom generation. As a result of increased life expectancy and other demographic trends, the proportion of elderly persons, especially the 85 and older cohort, is growing rapidly. The Maryland Office of Planning projects that the greatest percentage increase in the over 65 population will occur in the 85+ age group between 1990 and 2020. Over this period, the 85 and older population is projected to increase from 33,840 in 1990 to 75,125 in 2020; a 122 percent increase. The 75 to 84 population will increase by 76 percent (from 144,899 to 256,065 people), and the 65 to 74 population will increase by 95 percent (from 308,130 to 599,767 people) between 1990 and 2020. [11]

While the majority of home health agency clients has consistently been 65 years and older, the percentage of home health clients aged 65 and older declined slightly by two percent, from 58 percent in 1995 to 56 percent in 1999. The 75 to 84 year old clients continued to represent 24 percent of the total home health clients for both 1995 and 1999.

While the aging population will most likely impact the need for long term care services, it remains unclear as to what types of services and how much. Long term care services are provided in a variety of settings; however, the preference seems to be for home-based or community-based settings.

B. Medical Technology Advances

Advances in medical knowledge and technology have afforded the opportunity for patients to receive necessary medical treatment in their own home. Such advances in computerized technology, including portability of monitoring equipment and treatment modalities, have encouraged changes in the delivery site from institutional to home and community-based settings. For instance, infusion therapy and ventilator care, formerly only available in institutions, can now be provided in the home. Continuing advances in medical technology, coupled with consumer's preference will most likely increase the demand for home health agency services.

[11] Maryland Health Care Commission, *Maryland Long Term Care Chartbook 2000*; released August 2000.

C. Development of Community-Based Alternatives

Increased consumer demand for the delivery of services in non-institutional settings has prompted the development of home and community-based services, including assisted living facilities. In turn, assisted living providers are establishing alliances with home health agencies in order to provide preventive care to maintain their residents' health and avoid institutionalization. Increased availability and access to home health care services through assisted living facilities would most likely improve consumer satisfaction by maintaining the highest possible level of independence for the resident. [12]

Federal and state initiatives have also supported the concept of "aging in place" and the development of non-institutional settings. The July 1999 U.S. Supreme Court decision, *Olmstead v. L.C.*, while specifically addressing the needs of qualified individuals with disabilities, has also been interpreted to require states to provide alternatives to institutionalization for seniors. New State-federal matched funding further encourages development of community-based alternatives. State Medicaid waivers, including the Medicaid Waiver for Older Adults, and the Attendant Care Waiver, will most likely increase the utilization of home health agency services, as one of the types of providers identified to offer community-based services.

D. Changes in Organization and Ownership of Home Health Agencies

According to the inventory of licensed home health agencies maintained by the Maryland Health Care Commission, during the period from January 1, 1997 through March 1, 2001, a total of 48 agencies closed. Of these 48 agencies, 11 were owned and operated by Maryland local county health departments. Also, 22 of these 48 agencies merged with, or acquired by, existing home health agencies. Table 11 summarizes the number of home health agency closures by year and by type. A more detailed listing of these closures/mergers/acquisitions is in Appendix A, Table A-1.

Table 11
Summary of Recent Closures/Mergers (Including Acquisitions) of Home Health Agencies
Maryland: January 1, 1997 – March 1, 2001

Type of Closure	1997	1998	1999	2000	2001*	TOTAL
Closed HHAs of Local County Health Depts.	5	2	3	1	0	11
Closed Private HHAs	4	4	5	2	0	15
Closed and Merged Private HHAs	4	7	7	4	0	22
TOTAL	13	13	15	7	0	48

Source: Maryland Health Care Commission, March 2001 (updated); Certificate of Need Monthly Status Reports.
* Data for 2001 is January through March only.

[12] "Entering the World of Home Care," *Provid*er, May 1997.

As illustrated above, 26 home health agencies closed (11 local county health department and 15 private agencies) during the time period of January 1, 1997 through March 1, 2001. Additionally, 22 home health agencies individually closed as separate licensed entities and were acquired or merged with other existing agencies. During this same time period, additional home health agencies were licensed to provide home health services. There are currently a total of 79 licensed home health agencies (including branches) in Maryland. This represents a 30% statewide decline in the number of home health agencies serving Maryland clients from 113 agencies in 1995. About 46% of Maryland's agency closures were results of merging existing agencies, which allowed for continued access to home health services in those jurisdictions. However, several county government agencies have recently closed as well, citing drastic declines in home health client referrals. Since many of these county agencies served the indigent population in rural geographic areas, continued access to needed home health services by this target population should be monitored.

Home health agency closures are not unique to Maryland. According to a recent national survey[13], the number of home care agencies nationwide dropped 12.8% in 1999, to 13,101 from 15,018 in 1998. According to this survey, Maryland reported a 15.3% decline in number of agencies from 131 agencies in 1998 to 111 agencies in 1999. When compared to other states, Maryland ranked 15th highest in the reported percentage change in the decline in the number of agencies from 1998 to 1999. Only four states reported an increase in number of agencies from 1998 to 1999. States reporting the largest percentage losses in the number of agencies during this two-year time frame were Tennessee (-40.3%), Delaware (-27.8%), Florida (-25.4%) and New Mexico (-24.4%).

Closures of agencies do not always result in lack of availability of services. Since home health is a client-based rather than bed-need based service, there is more flexibility with remaining agencies being able to absorb additional clients. Maryland's State Health Plan standards recognize this assumption. Currently, projected net need at or below 350 clients within a jurisdiction is assumed to be able to be absorbed by existing home health agencies. This issue of home health agency capacity will continue to be studied.

As shown and described in Table 10, in the year 2000, the number of Medicare-certified home health agencies per 100,000 beneficiaries nationwide ranged from the lowest of 5 agencies in New Jersey to 59 agencies in Wyoming.[14] Maryland and New York both had 8 agencies per 100,000 beneficiaries, which ranked as the second lowest nationwide. Implications of these

[13] Aventis Pharmaceuticals, Managed Care Digest Series, Institutional Highlights 2000. Detailed information on corporate affiliations for more than 12,000 home health care agencies and more than 260 home care chains was used to compile the profile of the home care industry. Data for this Digest were gathered by SMG Marketing Group Inc. A home care agency may be included in the data base for this Digest if it is licensed by the state in which it is located, certified by the Health Care Financing Administration or part of a licensed home care chain. It must have at least three nonadministrative staff members (i.e., field members) permanently located in that office. Finally, the agency staff must provide at least two types of home care services, except where the agency is providing only skilled nursing care.

[14] Source: AARP Public Policy Institute, *Reforming the Health Care System: State Profiles* for 1998, 1999 and 2000.

findings and the wide variation in the number of Medicare-certified agencies across the states may simply be a reflection of the various closures and merger activities. Moreover, in Maryland, there are other types of home care providers (e.g., residential service agencies). Although such providers cannot be Medicare-certified, the current supply of 220 licensed RSAs in Maryland may skew the comparative data with that of other states which may not have other types of home care providers available. Moreover, there is no standard national measure for determining a minimum or maximum number of home health agencies needed.

It should be further noted that every jurisdiction in Maryland has at least one Medicare-certified home health agency serving its residents. A detailed table showing the number of home health clients and agencies by jurisdiction in Maryland for fiscal years 1996 through 1999 is in Table 12. Variations across the five regions may indicate differences in referral patterns to home health agencies from physicians and hospitals. Due to the nationwide shortage of home care nurses and aides, many agencies may not be able to maintain a sufficient number of staff to serve a larger number of home health clients. Availability of alternative delivery sites of care as well as a caregiver at home may be other factors contributing to the regional variations.

TABLE 12
Home Health Agencies and Clients by Jurisdiction, FY 1996-1999

Jurisdiction of Clients Residence	Fiscal Year 1996		Fiscal Year 1997		Fiscal Year 1998		Fiscal Year 1999	
	Number of Clients	Number of Home Health Agencies	Number of Clients	Number of Home Health Agencies	Number of Clients	Number of Home Health Agencies	Number of Clients	Number of Home Health Agencies
Western Maryland								
Allegany County	1,923	4	2,148	5	1,388	6	1,928	6
Carroll County	2,534	20	2,185	19	1,931	21	2,890	18
Frederick County	1,725	9	2,461	11	2,365	11	2,621	12
Garrett County	663	2	600	4	605	4	508	6
Washington County	2,347	9	1,984	9	2,413	8	3,271	8
Total	9,192		9,378		8,702		11,218	
National Capital Area								
Montgomery County	16,000	31	14,852	29	15,658	28	18,178	27
Southern Maryland								
Calvert County	738	16	936	16	760	14	773	13
Charles County	1,185	14	1,341	15	1,166	16	1,331	15
Prince George's County	11,044	33	11,231	28	9,161	35	9,613	35
St. Mary's County	736	10	899	9	920	11	874	6
Total	13,703		14,407		12,007		12,591	
Baltimore Metropolitan Area								
Anne Arundel County	9,064	36	9,138	38	8,780	35	8,506	28
Baltimore County	22,925	38	20,619	36	20,133	36	23,471	33
Baltimore City	26,389	31	25,040	30	22,457	26	22,756	24
Harford County	5,511	25	5,497	25	5,708	23	5,926	20
Howard County	2,915	30	2,719	34	2,545	28	2,626	26
Total	66,804		63,013		59,623		63,285	
Eastern Shore								
Caroline County	480	5	382	3	168	3	197	4
Cecil County	1,385	15	11,424	12	1,633	15	1,589	13
Dorchester County	501	2	271	2	113	2	124	3
Kent County	395	2	490	5	455	3	513	4
Queen Anne County	804	7	759	4	667	6	878	5
Somerset County	448	5	560	7	445	7	494	7
Talbot County	742	4	206	2	268	2	281	3
Wicomico County	1,555	5	1,847	8	1,819	9	1,510	7
Worcester County	788	5	994	5	1,031	8	912	7
Total	7,098		6,933		6,599		6,498	
MARYLAND TOTAL	**112,797**		**108,583**		**102,589**		**111,770**	

Source: Maryland Health Care Commission, *Maryland Home Health Agency Annual Reports* , Fiscal Years 1996, 1997, 1998 & 1999.

Note: Number of home health agencies include those agencies authorized to serve in that jurisdiction that actually provided home health services to at least one client.

IV. HOME HEALTH NEED FORECAST

A. Home Health Client Need Methodology: Overview

The current methodology for projecting home health need focuses on the number of clients or individuals who will use these services in a particular target year. Need is forecasted for the clients of licensed general home health agencies. Since there is no established measure of home health agency capacity, the need forecast is based on the number of clients to be served rather than the number of agencies. The methodology focuses on the entire population, rather than specific age groups. Data for the need projections are derived from the following sources:

(1) Population estimates for the base year and the target year are obtained from the most recent population projections available from the Maryland Office of Planning.

(2) The number of Maryland resident discharges from acute care hospitals in the base year is obtained from the Maryland Hospital Discharge Abstract Data Base.

(3) The total number of home health agency clients served in the base year is obtained from the Home Health Agency Annual Report administered by the Maryland Health Care Commission.

The target year is six years from the base year. The base year used in this update of the need projection for home health is 1999 and the target year is 2005.

Need for home health care in 2005 is determined using the following steps:

(1) The ratio of change in the population between 1999 and 2005 is calculated. This ratio is multiplied by the total number of Maryland resident acute hospital discharges in 1999 (excluding patients who died) in order to determine the total estimated number of Maryland resident acute hospital discharges in 2005.

(2) The statewide percent of hospital discharges appropriately referred to home health care is calculated by assuming that 10 percent of referrals to home health agencies come from hospitals.

(3) The minimum and maximum statewide percent of hospital discharges appropriately referred to home health care is determined by constructing a one-percent confidence interval around this estimate (in this case, 9.4 percent – 10.4 percent).

(4) The minimum and maximum number of hospital discharges appropriately referred to home health care by jurisdiction of residence in 2005 is determined by multiplying the statewide estimated 2005 hospital discharges by 9.4 percent (minimum) and 10.4 percent (maximum). These statewide values are further adjusted to reflect the distribution of home health clients throughout the state based on the number of residents in each jurisdiction who received home health care in the base year 1999. Thus, the minimum percent and maximum percent of hospital discharges appropriately referred to home health care in a particular jurisdiction may have been greater than or less that the statewide average.

(5) The minimum number of referrals to home health care from sources other than hospitals is assumed to be two-thirds of hospital referrals. This is calculated by dividing the minimum and maximum number of referrals to home health care from hospitals, by jurisdiction of residence, by one and a half.

(6) The minimum gross need for home health care in 2005 by jurisdiction of residence is calculated by adding together the minimum numbers of referrals in 2005 to home health care from hospitals and from other sources by jurisdiction of residence. The maximum gross need for home health care in 2005 is calculated in a similar manner using maximum numbers.

(7) The minimum net need for additional home health care in 2005 is calculated by subtracting the number of clients served in 1999 by jurisdiction of residence (obtained from the Home Health Agency Annual Report) from the minimum gross need for health care by jurisdiction of residence. The maximum net need for additional home health care in 2005 is calculated in a similar manner.

(8) The minimum adjusted net need for additional home health care in 2005 is calculated. The number of clients proposed to be served in specific jurisdictions by CON-approved agencies, yet still under development (obtained from the Commission's CON Monthly Status Reports)[15], is subtracted from the minimum net need for health care by jurisdiction of residence. The maximum adjusted net need for additional home health care in 2005 is calculated in a similar manner.

[15] Statewide, there are 1,065 clients proposed to be served by CON-approved home health agencies currently under development, in the following four jurisdictions: Anne Arundel County (253 clients), Baltimore County (207 clients), Harford County (207 clients) and Montgomery County (398 clients). These clients are subtracted from the appropriate jurisdiction-specific minimum and maximum net need to determine minimum and maximum *adjusted* jurisdictional net need.

B. Alternate Forecasts of Home Health Need: 2005

The overall approach to forecasting home health need under various scenarios is premised on varying two types of assumptions: 1) the percent of hospital discharges appropriately referred to home health, and 2) the percent of referrals from sources other than from hospitals. The outcome of applying the existing formula and assumptions of the current methodology as well as five additional scenarios is summarized in Table 13. The rationale for the alternate assumptions is described below.

The jurisdictional net adjusted need for 2005, based on the current methodology and each of the five scenarios, are provided in Tables C-1 through C-6, found in Appendix C. Consistent with State Health Plan standards (COMAR 10.24.08), a new general home health agency in a jurisdiction will be approved only if the projected number of additional clients to be served in the jurisdiction in the target year is above 350. The tables included in Appendix C indicate whether this volume threshold has been met.

Current Methodology

The current methodology uses the following assumptions: 1) the percent of hospital discharges appropriately referred to home health care is between 9.4 percent and 10.4 percent; and 2) the percent of referrals from sources other than from hospitals is assumed to be two-thirds of hospital referrals. As shown in Table 13, the results of this current need methodology shows no net need for any additional home health capacity in 2005 (refer to Table C-1 in Appendix C).

Scenario 1:

This scenario revises one of the two assumptions included in the current methodology. Specifically, the assumption used to estimate the percent of hospital discharges appropriately referred to home health remains the same (between 9.4 percent and 10.4 percent). However, the percent of referrals from sources other than from hospitals is assumed to increase to three-fourths of hospital referrals. This assumption is based on the changing referral patterns to home health agencies. Based on data from the Maryland Home Health Agency Annual Report, from 1995 to 1999, the statewide proportions of hospital and other source referrals to home health agencies have changed. Specifically, the percent of home health agency admissions referred from sources other than hospitals have grown; from 39.8% in 1995 to 45.5% in 1999. Moreover, other source referrals accounted for 66 percent of hospital referrals in 1995, and increased to 83 percent of hospital referrals in 1999. This increase in other source referrals may reflect the increase in the development of community-based alternatives and the increasing acceptance and preference of home care.

Under this scenario, as shown in Table 13, there is no statewide net need for additional home health capacity in 2005. However, in two jurisdictions (Caroline and Somerset Counties), there is identified maximum net need for four additional clients in Caroline County and one additional client in Somerset County (refer to Table C-2 in Appendix C). However, the 350 capacity threshold is not met in those jurisdictions.

Scenario 2:

This second option revises the first of the two assumptions under the current methodology, and retains the second assumption. Specifically, the assumption used to estimate the percent of hospital discharges appropriately referred to home health is increased from 10 percent to 12.5 percent. The increase in this assumption is supported by the fact that hospitals have been under increasing pressure to reduce lengths of stay. Over the past few years, the average lengths of stay in hospitals has continued to decline, while the number of hospital discharges has increased. At the same time, home care has become more sophisticated technologically, and better able to serve more medically complex patients in their own residence.

Under this scenario, there would be a statewide net adjusted need for additional 7,740 to 17,677 home health clients. As shown in Table 13, every jurisdiction has adjusted net need at both the minimum and maximum levels for additional home health clients to be served in the target year 2005 (refer to Table C-3 in Appendix C). However, only 10 jurisdictions meet the volume threshold of more than 350 clients.

Scenario 3:

This scenario makes adjustments to both assumptions, combining the 12.5 percent of hospital discharges under Scenario 2, with that of the three-fourths of hospital referrals as the estimate for other source referrals, as described under Scenario 1. As shown in Table 13, the outcome of these combined assumptions yields a statewide net adjusted need between 13,786 to 24,233 additional home health clients in 2005; with every jurisdiction showing additional need at both the minimum and maximum levels (refer to Table C-4 in Appendix C). Under this scenario, 12 jurisdictions meet the 350 capacity threshold.

Scenario 4:

Under this scenario, the assumption used to estimate the percent of hospital discharges appropriately referred to home care is increased from 10 percent of hospital discharges (in current methodology) to 15 percent. The assumption for estimating the percent of referrals from sources other than from hospitals is maintained at two-thirds of hospital referrals.

Analysis of the hospital discharge data shows an increase in the percent of Maryland resident hospital discharges to home health care (from 4.2 percent in 1995 to 5.4 percent in 1999). According to combined data from the Home Health Agency Annual Report and the Maryland Hospital Discharge Abstract Data Base, there has also been an increase in the percent of total hospital discharges referred on admission to home health agencies (from 13.2 percent in 1995 to 14.0 percent in 1999). Based on these analyses, a 15 percent assumption is used to estimate the increase in the percent of hospital discharges referred to home care in 2005.

The outcome of this scenario yields a statewide adjusted net need between 32,589 to 42,526 clients in the year 2005, as shown in Table 13. Every jurisdiction shows additional net need at both the minimum and maximum levels (refer to Table C-5 in Appendix C). Under this scenario, 15 jurisdictions meet the volume threshold of more than 350 clients.

Scenario 5:

This scenario makes adjustments to both assumptions, combining the 15 percent of hospital discharges under Scenario 4, with that of the three-fourths of hospital referrals as the estimate for other source referrals, as described under Scenario 3. These assumptions yield the highest range of home health client statewide net adjusted need, of between 39,904 to 50,352 clients in the year 2005; with every jurisdiction showing additional net need at both the minimum and maximum levels (refer to Table C-6 in Appendix C). There are 18 jurisdictions which meet the 350 capacity threshold under Scenario 5.

Table 13
Overview: Comparison of Alternate Forecasts of Home Health Need in 2005

ALTERNATIVES	STATEWIDE GROSS NEED IN 2005 (NUMBER OF CLIENTS)	NUMBER OF CLIENTS SERVED IN 1999	STATEWIDE NET NEED IN 2005 (NUMBER OF CLIENTS)	PROPOSED NUMBER OF CLIENTS TO BE SERVED BY RECENTLY APPROVED AGENCIES	ADJUSTED STATEWIDE NET NEED IN 2005 (NUMBER OF CLIENTS)
Current Methodology 10% Of Hospital Discharges + 2/3 Of Hospital Referrals to Home Health (Other)	93,421 TO 103,360	109,476	(16,055) TO (6,116)	1,065	(17,113) TO (7,170)
SCENARIO 1 10% Of Hospital Discharges+ 3/4 Of Hospital Referrals (Other)	98,207 TO 108,655	109,476	(11,269) TO (821)	1,065	(12,334) TO (1,883)
SCENARIO 2 12.5% Of Hospital Discharges+ 2/3 Of Hospital Referrals(Other)	118,279 TO 128,218	109,476	8,803 TO 18,742	1,065	7,740 TO 17,677
SCENARIO 3 12.5% Of Hospital Discharges+ 3/4 Of Hospital Referrals (Other)	124,326 TO 134,774	109,476	14,850 TO 25,298	1,065	13,786 TO 24,233
SCENARIO 4 15% Of Hospital Discharges+ 2/3 Of Hospital Referrals (Other)	143,113 TO 153,052	109,476	33,637 TO 43,576	1,065	32,589 TO 42,526
SCENARIO 5 15% Of Hospital Discharges+ 3/4 Of Hospital Referrals (Other)	150,445 TO 160,893	109,476	40,969 TO 51,417	1,065	39,904 TO 50,352

Note: Values reflect the number of clients. Values in parentheses represent no net need.
Due to rounding, totals may not agree.

C. Comparison of Home Health Client Use Rates Under Alternate Scenarios

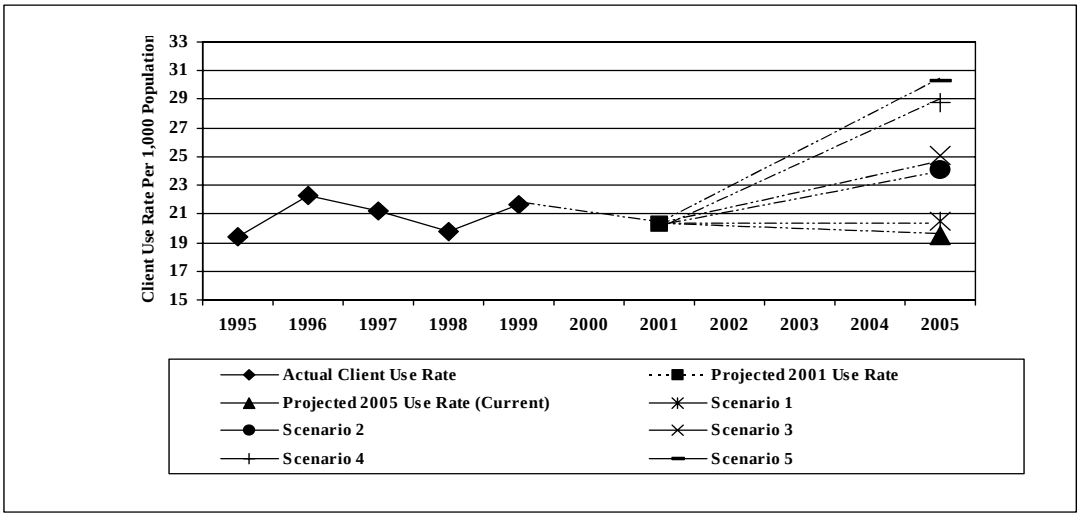
As a way of putting the various scenarios of home health need projections into context, actual historical home health client use rates per 1,000 population (1995 to 1999) is compared with 2001 and 2005 projected client use rates (using maximum gross need projections under the current methodology) as well as with 2005 projected client use rates under the five alternate scenarios. This comparison is presented in Table 14, and illustrated in Figure 4.

Table 14
Home Health Client Use Rates per 1,000 Population: 1995 – 1999, and Comparison with Home Health Agency Need Projections for 2001 and 2005

Year	Number of Clients* (Unduplicated Count)	Population Projections (All Ages)	Client Use Rate per 1,000 Population
1995	95,133	4,912,227	19.4
1996**	110,466	4,947,038	22.3
1997**	105,671	4,981,799	21.2
1998**	99,161	5,016,560	19.8
1999	109,476	5,051,321	21.7
2001 Projected Need***	Minimum: 94,121 Maximum: 104,134	5,131,177	Minimum: 18.3 Maximum: 20.3
2005 Projected Need* (Current Methodology)**	Minimum: 93,421 Maximum: 103,360	5,307,030	Minimum: 17.6 Maximum: 19.5
2005 Projected Need* (Scenario 1)**	Minimum: 98,207 Maximum: 108,655	5,307,030	Minimum: 18.5 Maximum: 20.5
2005 Projected Need* (Scenario 2)**	Minimum: 118,279 Maximum: 128,218	5,307,030	Minimum: 22.3 Maximum: 24.1
2005 Projected Need* (Scenario 3)**	Minimum: 124,326 Maximum: 134,774	5,307,030	Minimum: 23.4 Maximum: 25.4
2005 Projected Need* (Scenario 4)**	Minimum: 143,113 Maximum: 153,052	5,307,030	Minimum: 26.9 Maximum: 28.8
2005 Projected Need* (Scenario 5)**	Minimum: 150,445 Maximum: 160,893	5,307,030	Minimum: 28.3 Maximum: 30.3

Notes:
* Number of home health clients is for general home health agencies (excludes specialty agencies), consistent with the home health methodology.
** Number of home health clients for 1996, 1997 and 1998 are adjusted consistent with assumptions used to estimate missing data and more accurately interpret and analyze the historical trends. Refer to the Commission's *Maryland Home Health Agency Statistical Profile and Trend Analysis*, released June 2000.
*** Statewide Gross Need projections for home health agencies are for general agencies only, and exclude specialty agencies.

Figure 4
Comparison of HHA Client Use Rates for 1995 – 1999
with HHA Need Projections for 2001 and 2005



Note: All use rates are per 1,000 population (all ages). Excludes specialty home health agencies. Use rates for 2001 and 2005 with various scenarios are based on maximum gross need projections. Projected 2005 use rate is based on current 2001 home health methodology.

Sources: Maryland Health Care Commission's *Home Health Agency Statistical Profiles.* Maryland Office of Planning's population estimates and projections, updated February 2000.

An analysis of the data presented in Table 14 shows that the actual 1999 client use rate (excluding specialty agencies) of 21.7 is higher than both the 2001 and 2005 projected minimum and maximum client use rates, under the current methodology. The minimum and maximum client use rates under Scenario 1 for projecting 2005 need is also lower than 1999 actual home health client use rate. The four remaining scenarios' minimum and maximum 2005 projected client use rates forecast ranges of client need higher than that of actual 1999 home health utilization.

C. Issues for Consideration

In summary, there are several issues to consider when examining alternative approaches for projecting home health need. As part of the Commission's ongoing dialogue with representatives from the home health industry on the underlying assumptions and related factors used to forecast home health need in Maryland, several key issues will be addressed:

- the current methodology focuses on the entire population (all ages), rather than specific age groups;

- home health need is currently projected for the clients of licensed general home health agencies only, and excludes specialty agencies;

- need projections are focused on the number of home health clients, and not the number of agencies; there is no "conversion factor" for measuring the capacity of a home health agency due to variations in staffing resources and geographic location; and,

- the rapidly changing home health environment may necessitate more frequent updates of home health need projections.

APPENDIX A

Table A-1
Summary of Recent Closures/Mergers/Acquisitions of Home Health Agencies
Maryland: January 1, 1997 through March 1, 2001

According to the inventory of licensed home health agencies (HHAs) maintained by the Maryland Health Care Commission, during the period from January 1, 1997 through March 1, 2001, a total of 48 agencies closed. Of these 48 agencies, 11 were local county health departments. Also, 22 of these 48 agencies merged with, or acquired by, existing home health agencies. These mergers (including acquisitions) allowed for continued access to home health services in those jurisdictions. There are currently a total of 79 licensed home health agencies (including branches) in Maryland.

An account of the closures/mergers/acquisitions of home health agencies by type and effective date of closure is presented below:

♦ **11 County Health Departments HHAs Closed:**

- Allegany County (6/99)
- Caroline County (2/97)
- Carroll County and its private entity Carroll Family Care (two agencies) (12/97)
- Cecil County (6/99) (Note: Cecil County's HHA has been acquired by Union Hospital)
- Dorchester County (2/97)
- Kent County (1/97)
- Somerset County (6/99)
- Talbot County (6/98)
- Washington County (6/00)
- Wicomico County (8/98)

♦ **22 HHAs Closed and Merged With Other Existing HHAs:**

- Anne Arundel Health System's Home Health/Hospice closed and merged with Visiting Nurse Association (VNA) of Washington, D.C., an affiliate of MedStar Health. (10/99)
- Bay Area Health Care and its private entity, Bel-Care (2 agencies), closed and merged with VNA of Maryland and its private entity VNA Home Care of Maryland (11/97)
- Harbor Hospital, Church Hospital, Tri-Home Health Care & Services, Inc., Tri-Home Services, Inc., and Union Memorial Hospital all closed and merged with Helix Health (1998); subsequently, the ownership of Helix Health was transferred to VNA of Washington, D.C. The parent corporation of VNA of Washington, D.C. was Medlantic/Helix Parent, Inc., which became MedStar Health, Inc. (1999)
- Gentiva Health Services closed its Wheaton branch office (serving Montgomery, St. Mary's and Frederick counties) and merged under its main office in Pasadena (10/00)
- Howard Home Health merged with Johns Hopkins Health System (1/99)
- Maryland General HHA was acquired by VNA of MD (4/00)
- Memorial Hospital Home Health Services and Sacred Heart Hospital HHA merged, with the merger of their two hospitals to create the Western Maryland Health System (1997)
- Mercy Home Health Services closed and merged with North Arundel Home Health (2/99)

- Mt. Washington Pediatric Home and Community Care closed and merged with North Arundel Home Health (4/98)
- Oak Crest Village HHA was acquired by Charlestown HHA (10/00)
- Olsten Certified Healthcare and Olsten Home Healthcare (2 agencies) closed in Towson, and merged with Olsten Health Services in Pasadena (1/99), which changed its name to Gentiva – Pasadena (2/2000).
- Sinai Hospital Homecare closed and merged with Visiting Nurse Association (VNA) of Maryland (6/98)
- St. Joseph Comprehensive Homecare and St. Joseph Hospital Homecare/Hospice (2 agencies) merged with Upper Chesapeake Health System (2/99)
- Union Hospital of Cecil County acquired Cecil County Health Department's HHA (4/00) which closed (6/99)

♦ **15 HHAs Closed:**

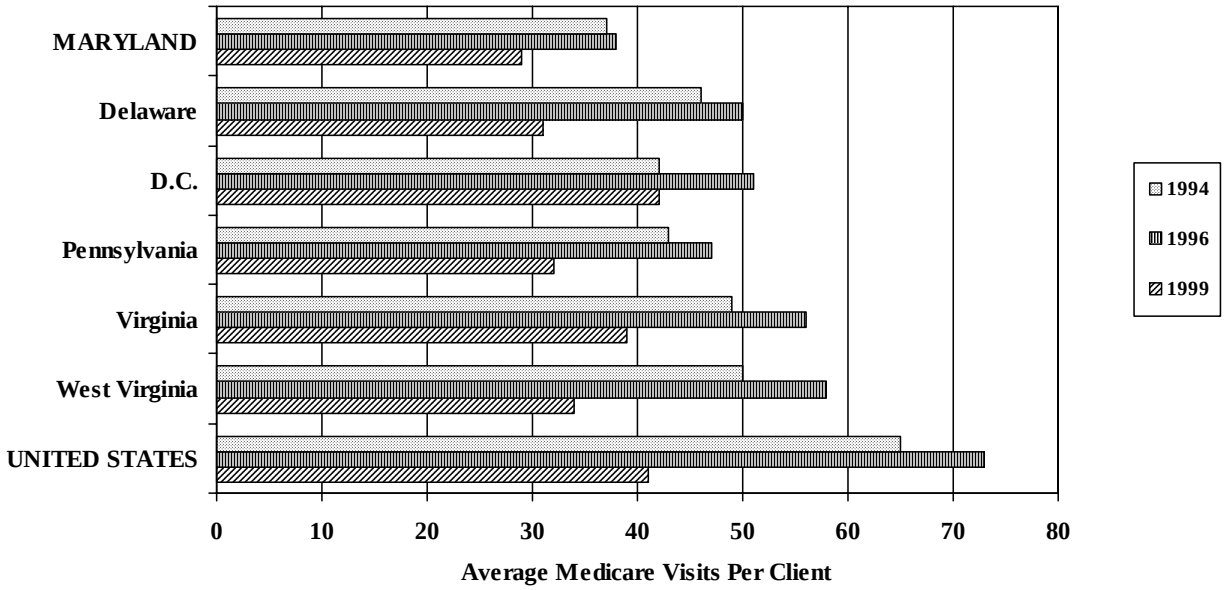
- Bon Secours Home Health and Hospice (1/00)
- George Washington University Cancer Home Care (1997)
- Home Health Partners (2/00)
- Hospice of Washington County (10/98)
- Interim Health Care - Metro D.C. (12/97)
- Jewish Family Health Care Services (7/97)
- Kennedy Krieger Home Health Services (1998)
- Kimberly - Towson (1/99)*
- Lorien Home Health (1998)
- Mercy Home Health (2/99)
- Montgomery Hospice Home Health (1997)
- Preferred Pediatrics Home Care (formerly Children's Home Health Care Services) (6/99)
- Premier Certified Home Health (6/99)
- Premier Nurse Staffing (6/99)
- Total Home Health Care (Baltimore City) (3/98)

*Note: Only the Towson branch of Kimberly closed. Kimberly's Pasadena and Wheaton offices remained open and changed their name to Gentiva Health Services (USA) (2/2000).

Source: Maryland Health Care Commission, March 2001 (updated). This list appeared in the Commission's *Maryland Home Health Agency Statistical Profile and Trend Analysis, Fiscal Year 1998*, which was issued in June 2000, and has been updated consistent with the Commission's Certificate of Need Monthly Status Reports.

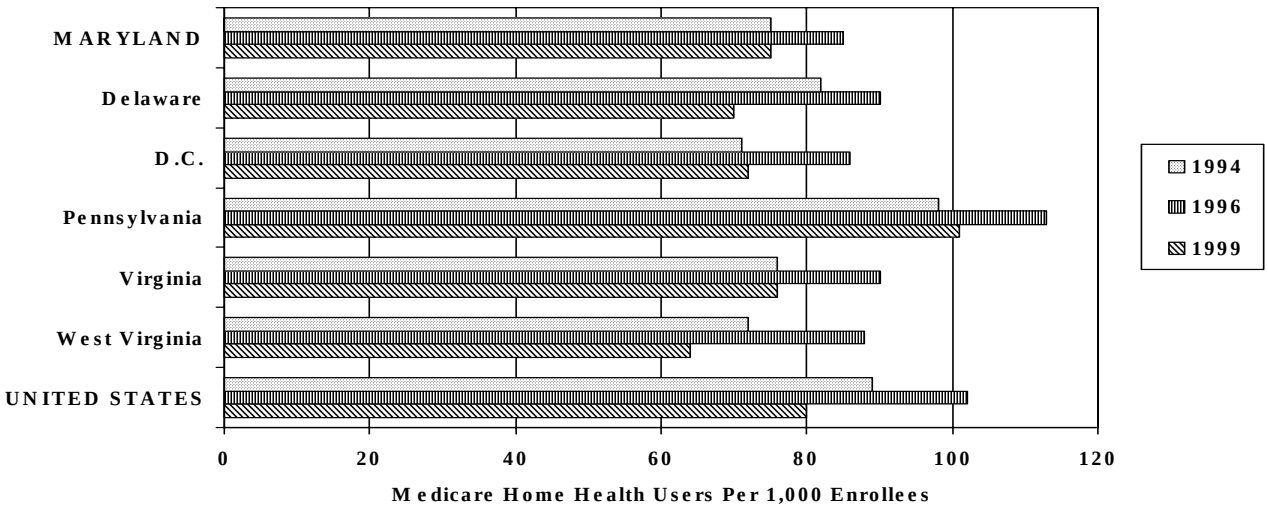
APPENDIX B

Figure B-1
Average Visits per Medicare User
Comparison of Maryland, Selected States and U.S.
1994, 1996 and 1999



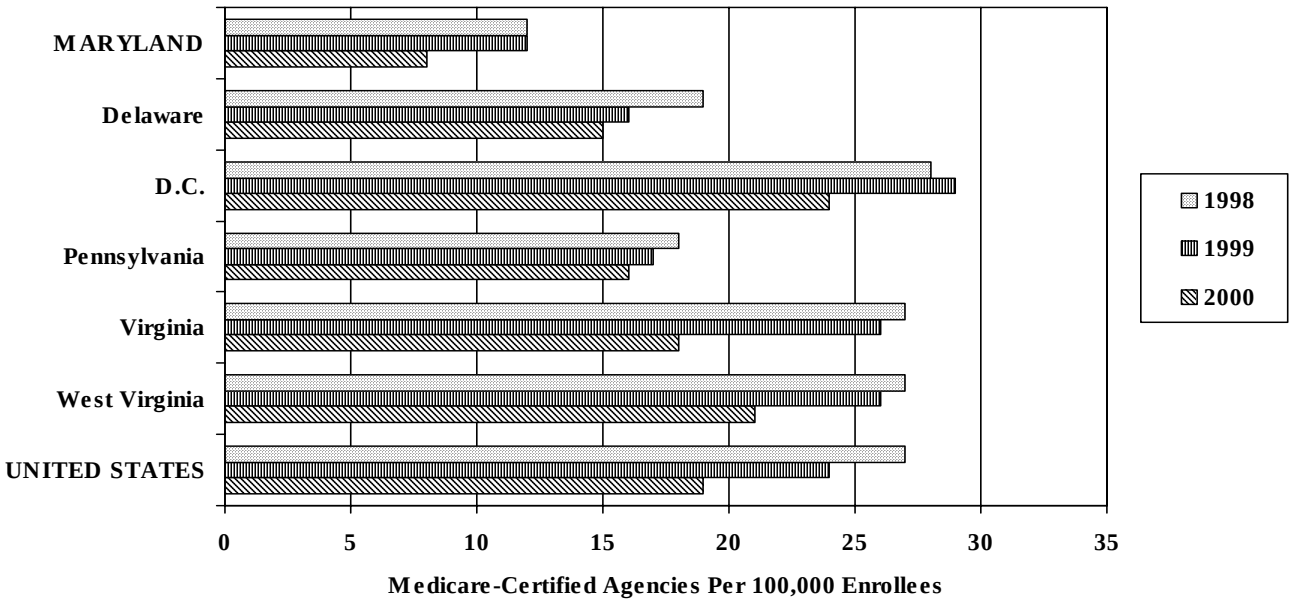
Source: GAO analysis of HCFA's home health claims data and beneficiary enrollment data for 1994, 1996, and 1999. Refer to United States General Accounting Office publication, *Medicare Home Health Care: Prospective Payment System Could Reverse Recent Declines in Spending*, September 2000.

Figure B-2
Medicare Home Health Users Per 1,000 Enrollees
Comparison of Maryland, Selected States and U.S.
1994, 1996 and 1999



Source: GAO analysis of HCFA's home health claims data and beneficiary enrollment data for 1994, 1996, and 1999. Refer to United States General Accounting Office publication, *Medicare Home Health Care: Prospective Payment System Could Reverse Recent Declines in Spending*, September 2000.

Figure B-3
Medicare-Certified HHAs Per 100,000 Enrollees
Comparison of Maryland, Selected States and U.S.
1998, 1999 and 2000



Source: United States General Accounting Office publication, *Medicare Home Health Care: Prospective Payment System Could Reverse Recent Declines in Spending*, September 2000.

APPENDIX C

TABLE C-1
Scenario: Current Methodology

Minimum And Maximum Adjusted Net Need For Additional Home Health Care Services in the Target Year 2005			Volume Threshold Met (Over 350 Clients)
Jurisdiction of Care	**Minimum**	**Maximum**	
Allegany	(280)	(105)	
Carroll	(414)	(154)	
Frederick	(384)	(148)	
Garrett	(77)	(32)	
Washington	(476)	(180)	
Western MD Total	(1,631)	(619)	
Montgomery	(3,051)	(1,409)	
Calvert	(117)	(47)	
Charles	(192)	(71)	
Pr. George's	(1,394)	(531)	
St. Mary's	(129)	(50)	
Southern MD Total	(1,832)	(699)	
Anne Arundel	(1,483)	(725)	
Baltimore County	(3,524)	(1,473)	
Baltimore City	(3,224)	(1,225)	
Harford	(1,058)	(528)	
Howard	(372)	(141)	
Central MD Total	(9,661)	(4,092)	
Caroline	(24)	(6)	
Cecil	(229)	(86)	
Dorchester	(19)	(8)	
Kent	(72)	(25)	
Queen Anne's	(127)	(47)	
Somerset	(68)	(23)	
Talbot	(43)	(19)	
Wicomico	(222)	(86)	
Worcester	(134)	(51)	
Eastern Shore Total	(938)	(351)	
MARYLAND TOTAL	**(17,113)**	**(7,170)**	

*Values reflect the number of clients. Values in parentheses represent no net need.
Current Methodology:
Assumes 10 percent of hospital discharges are referred to home health.
Assumes other-source referrals are two-thirds of hospital referrals.

Consistent with CON Approval rules for Home Health Agencies (COMAR 10.24.08), a new general home health agency in a jurisdiction will be approved only if the number of additional clients to be served in the jurisdiction in the target year is above 350.

Subtracting total number of clients proposed to be served by CON-approved agencies; yet CONs still under development as of February 2001.

Excludes specialty home health agencies.

Note: Due to rounding, totals may not agree.

TABLE C-2
Home Health Services Methodology: Scenario 1

Minimum And Maximum Adjusted Net Need For Additional Home Health Care Services in the Target Year 2005			Volume Threshold Met (Over 350 Clients)
Jurisdiction of Care	**Minimum**	**Maximum**	
Allegany	(196)	(12)	
Carroll	(289)	(16)	
Frederick	(271)	(23)	
Garrett	(55)	(7)	
Washington	(334)	(22)	
Western MD Total	(1,145)	(80)	
Montgomery	(2,262)	(536)	
Calvert	(84)	(10)	
Charles	(134)	(7)	
Pr. George's	(979)	(73)	
St. Mary's	(91)	(9)	
Southern MD Total	(1,288)	(99)	
Anne Arundel	(1,119)	(321)	
Baltimore County	(2,538)	(382)	
Baltimore City	(2,263)	(163)	
Harford	(803)	(246)	
Howard	(261)	(18)	
Central MD Total	(6,984)	(1,130)	
Caroline	(15)	4	
Cecil	(160)	(10)	
Dorchester	(14)	(2)	
Kent	(49)	0	
Queen Anne's	(88)	(5)	
Somerset	(46)	1	
Talbot	(32)	(5)	
Wicomico	(157)	(14)	
Worcester	(94)	(7)	
Eastern Shore Total	(655)	(38)	
MARYLAND TOTAL	**(12,334)**	**(1,883)**	

*Values reflect the number of clients. Values in parentheses represent no net need.
Scenario 1:
Assumes 10 percent of hospital discharges are referred to home health.
Assumes other-source referrals are three-fourths of hospital referrals.

Consistent with CON Approval rules for Home Health Agencies (COMAR 10.24.08), a new general home health agency in a jurisdiction will be approved only if the number of additional clients to be served in the jurisdiction in the target year is above 350.

Subtracting total number of clients proposed to be served by CON-approved agencies; yet CONs under development as of February 2001.

Excludes specialty home health agencies.

Note: Due to rounding, totals may not agree.

TABLE C-3
Home Health Services Methodology: Scenario 2

Minimum And Maximum Adjusted Net Need For Additional Home Health Care Services in the Target Year 2005			Volume Threshold Met (Over 350 Clients)
Jurisdiction of Care	**Minimum**	**Maximum**	
Allegany	158	332	
Carroll	235	494	X
Frederick	205	440	X
Garrett	37	83	
Washington	264	561	X
Western MD Total	899	1,910	
Montgomery	1,054	2,696	X
Calvert	57	126	
Charles	109	229	
Pr. George's	763	1,625	X
St. Mary's	67	146	
Southern MD Total	996	2,126	
Anne Arundel	413	1,171	X
Baltimore County	1,604	3,656	X
Baltimore City	1,773	3,771	X
Harford	267	796	X
Howard	205	435	X
Central MD Total	4,262	9,829	
Caroline	21	39	
Cecil	129	272	
Dorchester	8	19	
Kent	45	92	
Queen Anne's	72	152	
Somerset	44	89	
Talbot	19	44	
Wicomico	118	254	
Worcester	73	155	
Eastern Shore Total	529	1,116	
MARYLAND TOTAL	**7,740**	**17,677**	

*Values reflect the number of clients. Values in parentheses represent no net need.
Scenario 2:
Assumes 12.5 percent of hospital discharges are referred to home health.
Assumes other-source referrals are two-thirds of hospital referrals.

Consistent with CON Approval rules for Home Health Agencies (COMAR 10.24.08), a new general home health agency in a jurisdiction will be approved only if the number of additional clients to be served in the jurisdiction in the target year is above 350.

Subtracting total number of clients proposed to be served by CON-approved agencies; yet CONs still under development as of February 2001.

Excludes specialty home health agencies.

Note: Due to rounding, totals may not agree.

TABLE C-4
Home Health Services Methodology: Scenario 3

Minimum And Maximum Adjusted Net Need For Additional Home Health Care Services in the Target Year 2005			Volume Threshold Met (Over 350 Clients)
Jurisdiction of Care	**Minimum**	**Maximum**	
Allegany	264	448	X
Carroll	393	665	X
Frederick	348	596	X
Garrett	65	113	
Washington	445	756	X
Western MD Total	1,515	2,578	
Montgomery	2,053	3,778	X
Calvert	99	172	
Charles	182	309	
Pr. George's	1,287	2,194	X
St. Mary's	115	198	
Southern MD Total	1,683	2,873	
Anne Arundel	874	1,671	X
Baltimore County	2,852	5,009	X
Baltimore City	2,989	5,089	X
Harford	589	1,146	X
Howard	345	587	X
Central MD Total	7,649	13,502	
Caroline	32	51	
Cecil	216	367	X
Dorchester	15	26	
Kent	73	122	
Queen Anne's	121	204	
Somerset	71	118	
Talbot	34	60	
Wicomico	201	344	
Worcester	123	210	
Eastern Shore Total	886	1,502	
MARYLAND TOTAL	**13,786**	**24,233**	

*Values reflect the number of clients. Values in parentheses represent no net need.
Scenario 3:
Assumes 12.5 percent of hospital discharges are referred to home health.
Assumes other-source referrals are three-fourths of hospital referrals.

Consistent with CON Approval rules for Home Health Agencies (COMAR 10.24.08), a new general home health agency in a jurisdiction will be approved only if the number of additional clients to be served in the jurisdiction in the target year is above 350.

Subtracting total number of clients proposed to be served by CON-approved agencies; yet CONs still under development as of February 2001.

Excludes specialty home health agencies.

Note: Due to rounding, totals may not agree.

TABLE C-5
Home Health Services Methodology: Scenario 4

Minimum And Maximum Adjusted Net Need For Additional Home Health Care Services in the Target Year 2005			Volume Threshold Met (Over 350 Clients)
Jurisdiction of Care	**Minimum**	**Maximum**	
Allegany	595	770	X
Carroll	883	1,143	X
Frederick	794	1,029	X
Garrett	151	197	
Washington	1,005	1,301	X
Western MD Total	3,428	4,440	
Montgomery	5,158	6,800	X
Calvert	231	300	
Charles	410	530	X
Pr. George's	2,919	3,782	X
St. Mary's	264	342	
Southern MD Total	3,824	4,954	
Anne Arundel	2,309	3,067	X
Baltimore County	6,733	8,784	X
Baltimore City	6,769	8,768	X
Harford	1,591	2,121	X
Howard	781	1,012	X
Central MD Total	18,183	23,752	
Caroline	66	83	
Cecil	487	630	X
Dorchester	35	46	
Kent	162	208	
Queen Anne's	271	350	
Somerset	156	201	
Talbot	81	106	
Wicomico	459	595	X
Worcester	279	361	X
Eastern Shore Total	1,996	2,580	
MARYLAND TOTAL	**32,589**	**42,526**	

*Values reflect the number of clients. Values in parentheses represent no net need.
Scenario 4:
Assumes 15 percent of hospital discharges are referred to home health.
Assumes other-source referrals are two-thirds of hospital referrals.

Consistent with CON Approval rules for Home Health Agencies (COMAR 10.24.08), a new general home health agency in a jurisdiction will be approved only if the number of additional clients to be served in the jurisdiction in the target year is above 350.

Subtracting total number of clients proposed to be served by CON-approved agencies; yet CONs still under development as of February 2001.

Excludes specialty home health agencies.

Note: Due to rounding, totals may not agree.

TABLE C-6
Home Health Services Methodology: Scenario 5

Minimum And Maximum Adjusted Net Need For Additional Home Health Care Services in the Target Year 2005			Volume Threshold Met (Over 350 Clients)
Jurisdiction of Care	**Minimum**	**Maximum**	
Allegany	724	907	X
Carroll	1,074	1,347	X
Frederick	967	1,215	X
Garrett	185	233	
Washington	1,223	1,534	X
Western MD Total	4,173	5,236	
Montgomery	6,367	8,093	X
Calvert	282	355	X
Charles	498	625	X
Pr. George's	3,554	4,461	X
St. Mary's	321	404	X
Southern MD Total	4,655	5,845	
Anne Arundel	2,867	3,664	X
Baltimore County	8,243	10,399	X
Baltimore City	8,241	10,341	X
Harford	1,981	2,538	X
Howard	951	1,193	X
Central MD Total	22,283	28,135	
Caroline	79	98	
Cecil	592	743	X
Dorchester	43	55	
Kent	196	245	
Queen Anne's	329	413	X
Somerset	189	236	
Talbot	99	125	
Wicomico	559	702	X
Worcester	340	426	X
Eastern Shore Total	2,426	3,043	
MARYLAND TOTAL	**39,904**	**50,352**	

*Values reflect the number of clients. Values in parentheses represent no net need.
Scenario 5:
Assumes 15 percent of hospital discharges are referred to home health.
Assumes other-source referrals are three-fourths of hospital referrals.

Consistent with CON Approval rules for Home Health Agencies (COMAR 10.24.08), a new general home health agency in a jurisdiction will be approved only if the number of additional clients to be served in the jurisdiction in the target year is above 350.

Subtracting total number of clients proposed to be served by CON-approved agencies; yet CONs still under development as of February 2001.

Excludes specialty home health agencies.

Note: Due to rounding, totals may not agree.